

**National Transportation Safety Board
Washington, DC 20594**

Brief of Accident

Adopted 08/23/2000

DCA96MA070 File No. 2150	07/17/1996	EAST MORICHES, NY	Aircraft Reg No. N93119	Time (Local): 20:31 EDT		
Make/Model:	Boeing / 747-131			Fatal	Serious	Minor/None
Engine Make/Model:	P&W / JT9D-7AH		Crew	18	0	0
Aircraft Damage:	Destroyed		Pass	212	0	0
Number of Engines:	4					
Operating Certificate(s):	Flag Carrier/Domestic					
Name of Carrier:	TRANS WORLD AIRLINES					
Type of Flight Operation:	Scheduled; International; Passenger/Cargo					
Reg. Flight Conducted Under:	Part 121: Air Carrier					
Last Depart. Point:	JFK INTERNATIONAL, NY			Condition of Light:	Dusk	
Destination:	PARIS			Weather Info Src:	Weather Observation Facility	
Airport Proximity:	Unknown			Basic Weather:	Visual Conditions	
Airport Name:				Lowest Ceiling:	None	
Runway Identification:	0			Visibility:	6.00 SM	
Runway Length/Width (Ft):	Unk/Nr			Wind Dir/Speed:	Calm	
Runway Surface:				Temperature (°C):	22	
Runway Surface Condition:				Precip/Obscuration:	None / Haze	
Pilot-in-Command	Age: 57			Flight Time (Hours)		
Certificate(s)/Rating(s)				Total All Aircraft:	17000	
Airline Transport; Multi-engine Land;				Last 90 Days:	Unk/Nr	
Instrument Ratings				Total Make/Model:	4700	
Airplane				Total Instrument Time:	Unk/Nr	

On July 17, 1996, about 2031 eastern daylight time, Trans World Airlines, Inc. (TWA) flight 800, a Boeing 747-131, N93119, crashed in the Atlantic Ocean near East Moriches, New York. TWA flight 800 was operating under the provisions of 14 Code of Federal Regulations Part 121 as a scheduled international passenger flight from John F. Kennedy International Airport (JFK), New York, New York, to Charles DeGaulle International Airport, Paris, France. The flight departed JFK about 2019, with 2 pilots, 2 flight engineers, 14 flight attendants, and 212 passengers on board. All 230 people on board were killed, and the airplane was destroyed. Visual meteorological conditions prevailed for the flight, which operated on an instrument flight rules flight plan. The investigation revealed that the crash occurred as the result of a fuel/air explosion in the airplane's center wing fuel tank (CWT) and the subsequent in-flight breakup of the airplane. The investigation further revealed that the ignition energy for the CWT explosion most likely entered the CWT through the fuel quantity indication system wiring; neither the ignition energy release mechanism nor the location of the ignition inside the CWT could be determined from the available evidence. There was no evidence of a missile or bomb detonation. For more information please see National Transportation Safety Board Aviation Accident Report NTSB/AAR-00/03.

Brief of Accident (Continued)

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Occurrence #1: EXPLOSION
Phase of Operation: CLIMB - TO CRUISE

Findings

1. ELECTRICAL SYSTEM - UNDETERMINED
2. FUEL SYSTEM,TANK - EXPLODED

Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CLIMB - TO CRUISE

Findings Legend: (C) = Cause, (F) = Factor

The National Transportation Safety Board determines the probable cause(s) of this accident as follows.

An explosion of the center wing fuel tank (CWT), resulting from ignition of the flammable fuel/air mixture in the tank. The source of ignition energy for the explosion could not be determined with certainty, but, of the sources evaluated by the investigation, the most likely was a short circuit outside of the CWT that allowed excessive voltage to enter it through electrical wiring associated with the fuel quantity indication system. Contributing factors to the accident were the design and certification concept that fuel tank explosions could be prevented solely by precluding all ignition sources and the design and certification of the Boeing 747 with heat sources located beneath the CWT with no means to reduce the heat transferred into the CWT or to render the fuel vapor in the tank nonflammable.